of the Office Action, however, reveals that there is no reference to the secondary Brady reference with respect to claims 1, 2, 5, 6, 10, 11, 16, 17-18, and 20.

Hence, it appears the Examiner intended to reject claims 1, 2, 5, 6, 10, 11, 16, 17-18, and 20 under §102 as having been anticipated in view of Shani, and claims 3-4, 7-8, 12, 13, 14-15, 19, 21-22. Nevertheless, both §102 and §103 rejections are traversed, and this Response will address both Shani and Brady et al.

Each of the independent claims 1, 10 and 17 specify an integrated network switch having a switching module and configured for switching a layer 2 data packet within a network having a plurality of subnetworks. Moreover, each of the independent claims 1, 10, and 17 specifies that the switching module includes a plurality of address tables for storing the layer 3 switching information for the respective subnetworks, where each address table is configured for storing host identifiers ***for a corresponding subnetwork***.

For example, claim 1 specifies "storing address information from the layer 2 packet, including the host identifier, in a selected one of a plurality of address tables within the switching module based on the corresponding subnetwork identifier, each of the address tables configured for storing the host identifiers of respective transmitting nodes of a corresponding one of the subnetworks".

Claim 10 specifies "selecting one of a plurality of address tables within the switching module based on the corresponding subnetwork identifier, each of the address tables configured for storing the host identifiers of respective transmitting nodes of a corresponding one of the subnetworks". Claim 10 also specifies "searching the one selected address table for layer 3 switching information ... based on the host identifier."

Claim 17 specifies "a switching module ... including a plurality of address tables for storing the layer 3 switching information for the respective subnetworks, the switching module accessing a selected one of the address tables based on the corresponding subnetwork identifier...." Claim 17 also specifies "a plurality of network switch ports, each configured for receive a layer 2 data packet ... from a network node ... belonging to a corresponding subnetwork having the corresponding subnetwork identifier."

Hence, the integrated network switch utilizes a switching module that includes multiple address tables for storing layer 3 switching information ***for respective subnetworks***. Hence, search times for layer 3 switching information can be dramatically reduced by providing a plurality of address tables within a single switching module and that can be independently accessed by the switching module on a per-subnetwork basis.

Further, use of multiple address tables for respective subnetworks within a single switching module optimizes layer 3 switching operations while maintaining a low cost, economical architecture based on a centralized switching module that can be optimized to minimize area on the integrated circuit.

These and other features are neither disclosed nor suggested in the applied prior art.

Shani provides no disclosure or suggestion whatsoever of the claimed plurality of address tables, where ***each of the address tables*** is configured for storing the host identifiers of respective transmitting nodes of a corresponding one of the subnetworks. In fact, Shani teaches the **exact opposite** by eliminating any requirement that any given network node reside within a subnet:

> Using the Network Switch (NS), *there is **no restriction** regarding assigning different network (or subnet) numbers to any station in the network.* Once the network topology is learned by the NS (by listening to the Router and to network activity) the NS functions as the interpreter (or network number translation means) in place of the router.
>
> (Col. 9, lines 18-21).

Hence, Shani explicitly teaches away from the claimed "host identifier identifying a transmitting node having transmitted the layer 3 packet information ***from within the one subnetwork***" because there is "no restriction regarding assigning different network (***or subnet***) numbers to ***any station in the network***."

Hence, Shani cannot teach or suggest the claimed plurality of address tables, each configured for storing the host identifiers for a corresponding one of the subnetworks because Shani expressly removes use of a subnetwork identifier as a network attribute that can assist in obtaining layer 3 forwarding information.

Shani instead relies on 6 Different Tables to search for switching information, namely: a Main Database (Table 1); a Port-Assignment Database which includes three tables (Table 2a, Table 2b, and Table 2c); a Network Database (Table 3), and a Router Database (Table 4). (See, e.g., col. 8, lines 52-62; col. 9, lines 38-57).

The multiple tables in the Port-Assignment Database are necessary because, unlike the disclosed embodiment of the subject application (and as recited in dependent claims 3, 4, 12, 13, and independent claim 17), there is *no coherent structure* in the port assignments relative to networks or subnets:

> The Port-Assignment (PA) database has a many-to-many structure, because ***a number of VLANs or LAN segments may connect to a single port***, *or alternately,* ***a single VLAN or LAN segment may span several ports***. Without in any way limiting the scope of the present invention, one approach to handle many-to-many mapping is shown in the tables featured in Tables 2a-2c. According to such a configuration, the PA database uses three tables. The first (shown in Table 2a) uses ***the port number as a unique key entry and correlates multiple VLAN and network/subnet numbers***. The second (shown in Table 2b) uses the VLAN number as a unique key and correlates it to multiple port numbers. The third (shown in Table 2c) uses ***network/subnet numbers as the unique key and correlates each to appropriate port numbers***. A background process is used to synchronize all database tables and handle exceptions.
>
> (Col. 9, lines 42-57).

Shani also describes that Table 1 is used simply to validate existing stations (see, e.g., col. 10, lines 6-15) and Network Address (i.e., layer 3) to MAC address (i.e., layer 2) address resolution (see, e.g., col. 10, lines 52-58; col. 11, lines 62-65).

As apparent from the foregoing, however, Shani neither discloses nor suggests the claimed address tables, where each address table is configured for storing ***host identifiers*** for a ***corresponding subnetwork***. For this reason alone the rejection should be withdrawn because it fails to identify each and every element of the claim. See MPEP 2131. "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). "Anticipation cannot be predicated on teachings in the reference which are vague or based on conjecture."

Studiengesellschaft Kohle mbH v. Dart Industries, Inc., 549 F. Supp. 716, 216 USPQ 381 (D. Del. 1982), aff'd., 726 F.2d 724, 220 USPQ 841 (Fed. Cir. 1984).

In addition, Shani fails to teach or suggest the claimed feature in claims 10 and 17 of "selecting ***one of the plurality of address tables*** ... based on the ***corresponding subnetwork identifier***", let alone "searching the one selected address table for layer 3 switching information ... ***based on the host identifier***." In fact, Shani uses the entire layer 3 network address as a key:

> The NS extracts the frame's MSA, NDA, NSA, protocol type, and VLAN number if this feature is enabled. With that data the NS searches [in step 20 of Fig. 4] the Main database, ***using the NDA [Network-layer Destination Address] as a key***, for the destination's MAC address and port number.
>
> (Col. 10, lines 50-55).
>
> The NS itself can act as the proxy station, generating address resolution responses according to its Main database. This mode is designated "self process" in block 38. The NS looks at the incoming frame and extracts its NDA, MSA, NSA, protocol type and port number, and, using the NDA as a key, it searches the Main database to retrieve the MAC address of the requested station.
>
> (Col. 11, lines 59-65).

Hence, there is no disclosure or suggestion whatsoever in Shani to search the claimed address table that stores the host identifiers for respective transmitting nodes of a ***corresponding one of the subnetworks***, as claimed.

For these and other reasons, the §102 rejection of independent claims 1, 10, and 17 should be withdrawn.

Brady et al. is directed to hash addressing in a MAC Address Table (i.e., a layer 2 address table) for layer 2 switching based on media access control (MAC) source and destination addresses, and provides no disclosure or suggestion of the claimed plurality of address tables storing layer 3 host identifiers, each address table storing the host identifiers for a corresponding one of the layer 3 subnetworks. Any assertion that VLAN could be in any way equivalent to layer 3 subnetworks is without foundation, and contrary to the explicit teachings of both Shani

(see, e.g., col. 2, lines 49 to col. 3, line 18) and Brady (see, e.g., col. 1, lines 50-65) which teach that VLAN is strictly a layer 2 operation. Hence, any hypothetical combination still would neither disclose nor suggest the claimed address table that stores the host identifiers for respective transmitting nodes of a ***corresponding one of the subnetworks***, as claimed.

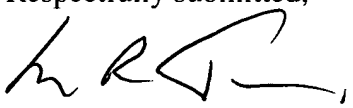
For these and other reasons, the §103 rejection should be withdrawn.

It is believed the dependent claims are allowable in view of the foregoing.

In view of the above, it is believed this application is in condition for allowance, and such a Notice is respectfully solicited.

To the extent necessary, Applicant petitions for an extension of time under 37 C.F.R. 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including any missing or insufficient fees under 37 C.F.R. 1.17(a), to Deposit Account No. 50-0687, under Order No. 95-309, and please credit any excess fees to such deposit account.

Respectfully submitted,



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